



## COOPERATIVE LEARNING: AN ALTERNATIVE TO TRADITIONAL METHOD

(Guided by)

**Susheel joshi**

Research scholar, Department of Education, University of Mumbai.

**Dr. Sunita Magre**

Associate Professor, Dept. of Education,  
University of Mumbai.

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### Introduction

The challenge in education today is to effectively teach students of diverse ability and differing rates of learning. Teachers are expected to teach in a way that enables pupils to learn science and mathematics concepts while acquiring process skills, positive attitudes and values and problem solving skills. A variety of teaching strategies have been advocated for use in science and mathematics classroom, ranging from teacher-centered approach to more students-center ones. In the last decade, there is a vast amount of research done on cooperative learning in science and mathematics. Cooperative learning is grounded in the belief that learning is most effective when students are actively involved in sharing ideas and work cooperatively to complete academic tasks. Cooperative learning has been used as both an instructional method and as a learning tool at various levels of education and in various subject areas. Johnson, Johnson and Holubec (1994) proposed five essential elements of cooperative learning:

(a) Positive interdependence: The success of one learner is dependent on the success of the other learners.

(b) Promotive interaction: Individual can achieve promotive interaction by helping each other exchanging resources, challenging each other conclusions, providing feedback, encouraging and striving for mutual benefits.

(C) Individual accountability: Teachers should assess the amount of effort that each member is contributing. These can be done by giving an individual test to each student and randomly calling students to present their group's work.

(d) Interpersonal and small-group skills: Teachers must provide opportunities for group members to know each other, accept and support each other, communicate accurately and resolve differences constructively.

(e) Group processing: Teachers must also provide opportunities for the class to assess group progress. Group processing enables group to focus on good working relationship, facilitates the learning of cooperative skills and ensures that members receive feedback. Essentially, then, cooperative learning, represents a shift in educational paradigm from teacher-centered approach to a more student-centered learning in small group. It creates excellent opportunities for students to engage in problem solving with the help of their group members

Cooperative learning is generally understood as learning that takes place in small groups where students share ideas and work collaboratively to complete a given task.

### REVIEW OF RELATED RESEARCH AND LITERATURE

Bernerow (2000) studied 25 second grade Black and Hispanic students working in cooperative groups. Bernero used surveys of teachers and students and found that students felt more comfortable working in a cooperative group. Students were placed in pairs or groups of three and used many manipulative to work on problems. Gillies (2004) studied the effects of cooperative learning on 223 ninth grade students in structured and unstructured groups. Gillies found that students in structured groups were more willing to work with others on assigned tasks and provide assistance to their peers than the students in the unstructured groups. The students worked

in three- or four-person mixed-gender and mixed-achievement groups. Anderson (2005) studied 420 junior and senior college students in a comparison of cooperative learning and traditional lecture-based biochemistry curriculum. Anderson found that students in the cooperative learning environment scored higher than their peers in standardized testing of the curriculum and were more positive about their learning experience. The cooperative learning classes were split into tutorial groups of five to six students, each meeting in Cooperative Learning a small room for one hour per session. These classes met for the same total number of hours per semester as did the traditional lecture-based classes. Each tutorial group included a senior biochemistry major or first-year graduate student as an educational assistant (Anderson, 2005). Finding similar results in a different college setting, Yamarik (2007) studied a total of 116 students enrolled in intermediate macroeconomics classes in the spring of 2002 and the fall of 2004. Using multivariate regression analysis, he found that students taught by cooperative learning achieved greater academic performance in the form of higher exam scores. Cooperative groups were established with three or four students that were heterogeneous in aptitude based on a 10-question test to measure mathematic skills.

In the above studies, the size of the group varied depending on the level of the students, the older the students and the larger the size of the groups. Each of the studies showed an average of four students per group and mixed the groups according to the abilities of the students. The distribution of the ability levels in the groups included a high-ability learner, a low ability learner, and two medium-ability learners.

The methodology of the research of each of the cases looked at a comparison between two groups of students. One group of students was being taught by using cooperative learning whereas the other group was using a more traditional lecture classroom setting. Many studies have shown that students' academic achievement was better for students who were involved in a cooperative learning environment, and the effects of cooperative learning on student achievement can be impressive.

#### **PURPOSE STATEMENT**

The purpose of the research is to understand the attitude of the teacher trainee towards the cooperative learning and also to look for the change in the attitude of the trainee teachers by giving them the training of the cooperative learning using different technique of cooperative learning.

#### **OBJECTIVES**

1. To survey the opinion of the trainee teachers towards cooperative learning.
2. To assess their response in percentage form.

#### **DELIMITATION -**

The study is delimited to the academic year 2011-12, it also delimited to the Jai Bhagwan college of education and research viatawa kalwa Thane, Research is also delimited to use of only. (Jigsaw, think and pair, robin round table)

#### **METHODOLOGY -**

The method of the research was giving the teachers trainee with the attitude on the cooperative learning prepared by the researchers, and then providing them with the training programme on the cooperative learning using different strategy of cooperative learning (Jigsaw, think and pair, robin round table) and again the same attitude tool will be implemented and the change in their attitude was seen.

**TOOL:**

The instrument selected for the study will Opinionsaire prepared by the researcher himself, Opinionsaire will be implemented to the bed classroom before giving them training based on cooperative learning strategy, And again the same Opinionsaire will be implemented and the change in their attitude will be seen. In the opinionsaire 10 questions were prepared.

**SAMPLE**

The sample of the study was the teacher trainee of jai Bhagwan College of education and research kalwa vitawa thane which consists of total of 70 students which consists of 40 female students while 30 male students

**DATA COLLECTION:**

Data will be collected from teacher's trainee by giving them Attitude scale first and then after the training session which will be conducted by the researcher himself. Statistical technique used will be the percentage.

**DATA ANALYSIS:**

Data analysis will be done on the basis of the percentage calculation of both the attitude scale (Pre and Post).

1. Do you feel that working in group will help you to achieve more?

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	20	20	35	5	50%	50%	87%	13%
Male	10	20	25	5	33%	67%	83%	17%

From the table it can be seen that pre training session it was seen that 50% of female agreed with the statement while 50% did not agreed with the statement, while only 33% of the male agreed with the statement, and 67% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 87% agreed with statement and only 13% did not agreed with it, while 83% of male agreed, and only 17% of male did not agreed with it.

**Discussion:**

This shows that there was some effect of the post training session of cooperative learning on the teacher trainee attitude towards the cooperative learning strategy, teacher trainee are already aware of learning with traditional method and this technique were new they may have concentrated more and so there may be change in their attitude towards the working in group.

**2. Does working in groups help you get involved in your learning?**

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	10	30	38	2	25%	75%	95%	5%
Male	5	25	27	3	16%	84%	90%	10%

From the table it can be seen that pre training session it was seen that 25% of female agreed with the statement while 75% did not agreed with the statement, while only 16% of the male agreed with the statement, and 84% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 95 % agreed with statement and only 05% did not agreed with it, while 90% of male agreed, and only 10% of male did not agreed with it.

**Discussion:**

This shows that there was some effect of the post training session of cooperative learning on the teacher trainee attitude towards the cooperative learning strategy, teacher trainee were actively involved in their group work which must have affected their concentration towards the learning of the concept by different strategies so there may be change in their attitude towards getting involved in learning in groups.

**3. Do you feel that working in groups has prepares you better for taking assessments than working alone?**

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	9	31	35	5	22%	88%	87%	13%
Male	10	20	26	4	33%	67%	86%	14%

From the table it can be seen that pre training session it was seen that 22% of female agreed with the statement while 88% did not agreed with the statement, while only 33% of the male agreed with the statement, and 67% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 87 % agreed with statement and only 13% did not agreed with it, while 86% of male agreed, and only 14% of male did not agreed with it.

**Discussion:**

This shows that there was some effect of the post training session of cooperative learning on the teacher trainee attitude towards the cooperative learning strategy, teacher trainee were actively involved in their group work and there difficult may have been solved very clearly by means of discussion so there may be change in their attitude towards feeling of performing better in assessment by working in groups.

**4. Do you feel that working in group helps you to understand concepts better?**

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	10	30	38	2	25%	75%	95%	5%
Male	5	25	27	3	16%	84%	90%	10%

From the table it can be seen that pre training session it was seen that 25% of female agreed with the statement while 75% did not agreed with the statement, while only 16% of the male agreed with the statement, and 84% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 95 % agreed with statement and only 05% did not agreed with it, while 90% of male agreed, and only 10% of male did not agreed with it.

**Discussion:**

This shows that there was some effect of the post training session of cooperative learning on the teacher trainee attitude towards the cooperative learning strategy, teacher trainee were actively involved in their group work and there difficult concepts may have been solved very clearly by means of discussion so there may be change in their attitude towards working in group helps in understanding the concept better.

**5. Do you feel that working in small group, everyone is encouraged to contribute?**

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	20	20	35	5	50%	50%	67%	13%
Male	10	20	25	5	33%	67%	83%	17%
	yes	no	yes	no	yes	no	yes	no

From the table it can be seen that pre training session it was seen that 50% of female agreed with the statement while 50% did not agreed with the statement, while only 33% of the male agreed with the statement, and 67% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 87% agreed with statement and only 13% did not agreed with it, while 83% of male agreed, and only 17% of male did not agreed with it.

**Discussion**

The results of the table showed that there was some effect of training on the attitude of teacher trainee towards the feeling of contribution of the everyone when they work in small group. This may be due to earlier they have not worked in small group, and due to small group every one must have taken part in discussion and they must have contributed their ideas for understanding of the concepts

**6. Do you feel that working in group helps you to learn quicker?**

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	7	33	39	1	17%	63%	97%	3%
Male	4	26	28	2	13%	67%	93%	7%
	yes	no	yes	no	yes	no	yes	no

From the table it can be seen that pre training session it was seen that 17% of female agreed with the statement while 83% did not agreed with the statement, while 13% of the male agreed with the statement, and 87% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 97% agreed with statement and only 03% did not agreed with it, while 93% of male agreed, and only 07% of male did not agreed with it.

#### Discussion

The results of the table showed that there was some effect of training on the attitude of teacher trainee towards the feeling that the working in groups helps them to learn the material quicker as compared to that of studying individual. This may be due to the technique followed was new to them and they must have thoroughly studied the concept with help of other and because of the discussion among themselves they may have done it quicker.

#### 7. Do you feel comfortable to ask the question in your group?

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	10	30	38	2	25%	75%	95%	5%
Male	5	25	27	3	16%	84%	90%	10%

From the table it can be seen that pre training session it was seen that 25% of female agreed with the statement while 75% did not agreed with the statement, while only 16% of the male agreed with the statement, and 84% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 95 % agreed with statement and only 05% did not agreed with it, while 90% of male agreed, and only 10% of male did not agreed with it.

#### Discussion

From the results of the table it can be concluded that whether male or female felt comfortable to ask question in the small group after the training, because again the technique of learning must be new to them and this technique requires dependence on one another and small group must have helped them be more comfortable to ask question to one another of their own difficulties.

#### 8. Do you feel that in a small group, you have more confident to solve the problems?

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	7	33	39	1	17%	83%	97%	3%
Male	4	26	28	2	13%	87%	93%	7%

From the table it can be seen that pre training session it was seen that 17% of female agreed with the statement while 83% did not agreed with the statement, while 13% of the male agreed with the statement, and 87% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 97% agreed with statement and only 03% did not agreed with it, while 93% of male agreed, and only 07% of male did not agreed with it.

Discussion

The results of the above table showed that there was more confidence seen in either male or female teacher trainee while working in the small group, this may be due to small number of members, and there may be feeling of oneness as a group, there may be no fear of failure so they may have more confidence for solving the problems.

9. Do you feel that working in small groups, ideas and opinions are treated with respect?

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	7	33	39	1	17%	83%	97%	3%
Male	4	26	28	2	13%	87%	93%	7%

From the table it can be seen that pre training session it was seen that 17% of female agreed with the statement while 83% did not agreed with the statement, while 13% of the male agreed with the statement, and 87% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 97% agreed with statement and only 03% did not agreed with it, while 93% of male agreed, and only 07% of male did not agreed with it.

Discussion

The results of the above table showed that the weather male or female they all feel that in a small group their ideas and opinions are respected by each other, because in large groups few students are allowed or given a chance, but in small group every one understand that everyone is important and is contributing towards the success therefore this may be reason that they must be respecting their ideas and opinions.

10. Do you feel that working in group is a time consuming process?

Gender	Pre training response		Post training response		Pre training percentage		Post training percentage	
	yes	no	yes	no	yes	no	yes	no
Female	30	10	32	8	75%	25%	80%	20%
Male	25	5	28	2	83%	17%	93%	7%

From the table it can be seen that pre training session it was seen that 75% of female agreed with the statement while 25% did not agreed with the statement, while 83% of the male agreed with the statement, and 17% of male did not agreed with it, and in post training session there was a change in the attitude of female which showed 80% agreed with statement and only 20% did not agreed with it, while 93% of male agreed, and only 07% of male did not agreed with it.

### **Discussion**

The results of the above table showed that the opinion of the teacher trainee towards the group work was time consuming in the initial phase and well as in the later phase of training, therefore it can be said that the cooperative learning strategy is a time consuming process.

### **Finding of the study**

The finding of the above research shows the improvement in the attitude of the teacher trainee towards the cooperative learning strategy. The research shows that the earlier attitude of the teacher trainee towards the cooperative learning was not so positive but after receiving the training in different strategy of cooperative learning their attitude towards the strategy has changed to a larger extent. This study also found an increase in the teacher trainee attitude after working in a group. Researcher own experience while trying with cooperative learning convinced that cooperative learning has a positive effect on attitude of teacher trainee towards working in cooperative learning group.

### **Implications**

After completion of this research, Researcher would like to continue to develop the idea of cooperative learning. Research shows that there are many benefits that can be gained when students work together. The exchange of different ideas and strategies can be beneficial to all students. This exchange of different strategies allows the students to look at problems through another's perspective. Researcher found that it is important to pay attention to which students are placed together in groups. Some students can work with many other students, but there will always be those few who have difficulty contributing to a group atmosphere. It is also very important to teach the students how to work cooperatively together.

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